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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KANE, CORDELIA P	

ART UNIT	PAPER NUMBER
2109	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/823,067

Applicant(s)

SILVESTER ET AL.

Examiner

Cordelia Kane

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 20-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/12/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the non-provisional application filed on April 12, 2004. Claims 1 – 19, 28 and 29 are pending. Claims 1, 7, 14 and 28 are independent.

Election/Restrictions

2. Claims 20 – 27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected subcombination, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 21, 2007.

Claim Objections

3. Claim 9 is objected to because of the following informalities: trusted platform module is not capitalized as it is everywhere else it is referenced. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 28 and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims fail to place the invention squarely within one statutory class of invention. On page 14-15, paragraph 14 of the instant specification, applicant has provided evidence that applicant intends the

“medium” to include signals. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore these claims are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 8, 10, 11, 14 – 18, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosario Gennaro et al's US Patent 6,317,834 B1. Referring to claim 1, Gennaro teaches:

- a. Receiving first multi-factor authentication data (column 9, lines 1-6).
- b. Encrypting the first multi-factor authentication data (column 9, lines 33-35).
- c. Storing the encrypted first multi-factor authentication data (figure 7A, #769).
- d. Determining if the second received multi-factor authentication data matches a subset of the first multi-factor authentication data (column 10, lines 16-19).

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4. Referring to claim 2, Gennaro teaches that one of the inputs is a biometric sample (column 9, lines 2-3).
5. Referring to claim 7, Gennaro teaches:
 - e. That the resource being accessed is a database (column 1, lines 60-61). It is inherent that the system would be a computer and therefor have a processor, non-volatile memory, and a bus.
 - f. Receiving first user authentication data (column 9, lines 1-6).
 - g. Storing the encrypted first user authentication data (figure 7A, #769).
 - h. Determining if the second received user authentication data matches a subset of the first user authentication data (column 10, lines 16-19).
6. Referring to claim 8, Gennaro teaches encrypting the first multi-factor authentication data (column 9, lines 33-35).
7. Referring to claim 10, Gennaro teaches that one of the inputs is a biometric sample (column 9, lines 2-3).
8. Referring to claim 11, Gennaro teaches that the first user authentication factors include a biometric sample, user identifier and a series of challenge questions and answers (column 9, lines 1-6). Gennaro goes on to teach how the biometric sample is the second authentication factor (column 10, lines 16-19). Therefor the first authentication factors are less than the second authentication factors.
9. Referring to claim 14, Gennaro teaches:

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- i. Receiving first multi-factor authentication data including a personal identifier (column 9, line 58), challenge answers (column 9, lines 64-67), and a biometric sample (column 10, lines 15-16).
 - j. Decrypting the second multi-factor authentication data (column 3, lines 14-16).
 - k. Determining if the first multi-factor authentication data matches a subset of the second multi-factor authentication data (column 10, lines 16-19).
10. Referring to claim 15, Gennaro teaches:
- l. Granting access to the resource if the first multi-factor authentication data matches the subset of the second multi-factor authentication data (column 10, lines 23-25).
 - m. Denying access if the first multi-factor authentication data does not match the second multi-factor authentication data.
11. Referring to claim 16, Gennaro teaches requesting the first multi-factor authentication data in response to an attempt to access the resource (column 1, lines 58-61).
12. Referring to claim 17, Gennaro teaches that the first multi-factor authentication data includes a biometric sample (column 10, lines 15-16).
13. Referring to claim 18, Gennaro teaches:
- n. Receiving second multi-factor authentication data (column 9, lines 1-6).
 - o. Encrypting the second multi-factor authentication data (column 9, lines 33-35).

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- p. Storing the second multi-factor authentication data (Figure 7A, #769).
14. Referring to claim 28, Gennaro teaches:
- q. Requesting autonomous user authentication sub-system to perform user authentication (column 9, lines 56-57).
 - r. Requesting a user to provide first multi-factor authentication data including a personal identifier (column 9, line 58), challenge answers (column 9, lines 64-67), and a biometric sample (column 10, lines 15-16).
 - s. Determining whether to grant access to the resource based on whether the first multi-factor authentication data matches a subset of second multi-factor authentication data (column 10, lines 15-25) where the second multi-factor authentication data is encrypted and stored (Figure 7A, #769).
15. Referring to claim 29, Gennaro teaches that the first multi-factor authentication data includes a biometric sample (column 10, lines 15-16).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 6, 12, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gennaro and further in view of Katsuya Nakagawa's US Patent 5,070,479.

18. Gennaro discloses all the limitations of the parent claim. Gennaro does not appear to explicitly disclose the processor being a microprocessor, or the two non-volatile memories being separated. However, Nakagawa discloses:

- t. That the processor is a microprocessor (column 4, 32-33). (claim 4)
- u. That there is a second processing unit separate from the first processing unit for performing authentication (column 15, lines 42-45). (claims 6 and 19)
- v. That the second non-volatile memory is physically separated from the first non-volatile memory (column 1, lines 20-24). (claim 12)
- w. It is inherent that if the second non-volatile memory is physically separated from the first non-volatile memory that it is also logically separated. (claim 13)

19. Gennaro and Kanagawa are analogous art because they are from the same field of endeavor authentication. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Gennaro and Kanagawa before him or her, to modify Gennaro to include the microprocessor, and separate memories and processing, of Kanagawa. The motivation for doing so would have been because a microprocessor is well known in the art, and that having separate memory and processing for authentication creates a more secure computing environment. Therefore it

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would have been obvious to combine Kanagawa with Gennaro to obtain the invention as specified in the instant claims.

20. Claims 3, 5 and 9 are rejected under 35 USC 103 (a) as being obvious over Gennaro in view of Walter Harris et al's US Patent 7,000,829 B1. Gennaro discloses all the limitations of the parent claim. Gennaro does not appear to explicitly disclose using the Trusted Platform Module or protected execution. However, Harris discloses:

- x. Using a Trusted Platform Module, and including the cryptographic engine (column 9, line 66 – column 10, line 4). (claims 3 and 9)
- y. Utilizing one of the specifications that provide protected execution (column 10, lines 10-11). (claim 5)

21. Gennaro and Harris are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Gennaro and Harris before him or her, to modify Gennaro to include the Trusted Platform Module that provides protected execution of Harris. The motivation for doing so would have been that it provides a more secure and trusted computing platform (column 10, lines 10-11). Therefore it would have been obvious to combine Harris with Gennaro to obtain the invention as specified in the instant claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Kane whose telephone number is 571-272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CPK


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SUPERVISORY PATENT EXAMINER
6/18/07